

## CLAIMS

1. A clamping assembly comprising:
  - a bar clamp including an elongated bar and first and second opposed clamp jaws;
  - a first clamp pad for being releasably mounted to one of said clamp jaws,
  - and a locking component for selectively locking the clamp pad to said one clamp jaw in a direction radial to the bar.
2. A clamping assembly as in claim 1, wherein the clamp pad includes a first workpiece engaging surface and a second surface spaced from said first surface, and defines a clamp jaw receiving receptacle between said first and second surfaces.
3. A clamping assembly as in claim 2, wherein a cutout is defined in said clamp pad for straddling a bar of the bar clamp assembly and wherein the locking component locks the clamp pad directly to the bar.
4. A clamping assembly as in claim 3, wherein said cutout has a length greater than a transverse dimension of said bar, so that when said clamp pad straddles said bar, said clamp pad extends beyond said bar on each lateral side thereof to define first and second feet for supporting said bar with respect to a work surface.
5. A clamping assembly as in claim 3, wherein said cutout is defined through said first face of the clamp pad.
6. A clamping assembly as in claim 1, wherein said locking component comprises a locking pin for being received in a locking pin bore.

7. A clamping assembly as in claim 6, wherein there are first and second locking pin bores for selectively receiving said locking pin.

8. A clamping assembly as in claim 6, wherein said locking pin bore is defined in said clamp pad.

9. A clamping assembly as in claim 6, wherein said locking pin bore extends in a direction transverse to an axis of said bar.

10. A clamping assembly as in claim 1, wherein the clamp pad is formed from plastic material.

11. A clamping system for clamping workpieces that includes:  
an elongated bar and first and second clamp jaws mounted to the bar, one of the jaws being selectively displaceable along the length of the bar and selectively locked in position on the bar and the other of the clamp jaws being selectively activated to be displaced towards and away from the one jaw to lock at least one workpiece therebetween; and

at least one clamp pad, each clamp pad being mounted to a respective clamp jaw, each said clamp pad comprising:

a first, front face for engaging a workpiece,

a second, rear face spaced from said first face,

a clamp jaw receptacle defined between said first and second faces, said receptacle having an open bottom end,

a first cutout defined in said first face to straddle said bar, and

at least one locking component for selectively radially locking said clamp pad to said bar.

12. A clamping system as in claim 11, wherein a second cutout is defined in said second face to straddle a portion of the respective clamp jaw.

13. A clamping system as in claim 11, wherein said first cutout has a vertical dimension greater than a transverse dimension of said bar, so that when said clamp pad straddles said bar, said clamp pad extends beyond said bar on each lateral side thereof to define first and second feet for supporting said bar with respect to a work surface.

14. A clamping system as in claim 11, wherein said locking component comprises a locking pin for being received in a locking pin bore.

15. A clamping system as in claim 14, wherein there are first and second locking pin bores for selectively receiving said locking pin.

16. A clamping system as in claim 14, wherein said locking pin bore is defined in said clamp pad.

17. A clamping system as in claim 14, wherein said locking pin bore extends in a direction transverse to an axis of said bar.

18. A clamping system as in claim 11, wherein the clamp pad is formed from plastic material.

19. A clamp pad for a clamp jaw of a bar clamp assembly, comprising:  
a clamp main body defining a first, front face for engaging a workpiece; a second, rear face spaced from said first face; a clamp jaw receptacle defined between said first and second faces for slidably receiving a clamp jaw of the bar

clamp assembly, said receptacle having an open bottom end; and a cutout for straddling a bar of the bar clamp assembly; and

a locking assembly including a locking pin for being selectively slidably disposed in a locking pin bore defined in said main body for selectively radially locking said clamp pad to said bar.

20. A clamp pad as in claim 19, wherein said locking pin bore is disposed in parallel to said first face.

21. A clamp pad as in claim 19, wherein there are first and second vertically offset locking pin bores defined in said main body for selectively receiving said locking pin.

22. A clamping system for clamping workpieces that includes:  
an elongated bar and first and second clamp jaws mounted to the bar, one of the jaws being selectively displaceable along the length of the bar and selectively locked in position on the bar and the other of the clamp jaws being selectively activated to be displaced towards and away from the one jaw to lock at least one workpiece therebetween; and

at least one clamp pad, each clamp pad being slideably mounted to a respective clamp jaw, each said clamp pad comprising:

a first, front face for engaging a workpiece,

a second, rear face spaced from said first face,

a clamp jaw receptacle defined between said first and second

faces, said receptacle having an open bottom end, and

means for radially locking said clamp pad to said bar.

23. A clamping system as in claim 22, wherein said means for radially locking said clamp pad to said bar comprises a cutout defined in said clamp pad for receiving said bar.

24. A clamping system as in claim 23, wherein said cutout has an open bottom and wherein said means for radially locking said clamp pad to said bar further comprises a locking component for locking said bar in said cutout.